Mini-Review of the IQLB
Thursday, 5 February 2004
9:00-11:00 AM
Club 157 (Trailer 157, behind Industrial Center Building)

Main Injector needs a larger aperture quadrupole between the Lambertson magnets in the extraction regions to handle the increasingly intense beams, especially those required for full intensity NuMI operations. TD prepared a very preliminary conceptual design for such a magnet as part of the 2002 Proton Driver study. The design was not based on a detailed, quantitative statement of the requirements. We can, however, use that design as the starting point for this discussion of the actual requirements on the desired magnet.
http://www-bd.fnal.gov/pdriver/8GEV/pd2pdf/ch17.pdf

We will attempt to answer the following questions:
Does the current design meet the needs of the Main Injector?
If not, what are the requirements that need to be met? For example, what is required in the matching of integrated gradient as a function of current?
Can a trim power supply be used to compensate for any deviations, either connected to trim windings or to the bus?
What requirements can be loosened? What is the required good field region? (And how good?) What is the required-not-so-good field region?
What vacuum issues must be considered?

1. Introduction - David Harding - 5 minutes
2. Motivation - Weiren Chou - 5 minutes
3. Field requirements - Ioanis Kourbanis, Dave Johnson, ??? - 15 minutes
4. Initial concept - Vladimir Kashikhin - 15 minutes
5. Assessment
    a. Aperture
    b. Field tracking
    c. Field uniformity
    d. Other
6. Other issues
    a. Power
    b. Water
    c. Support
    d. Vacuum